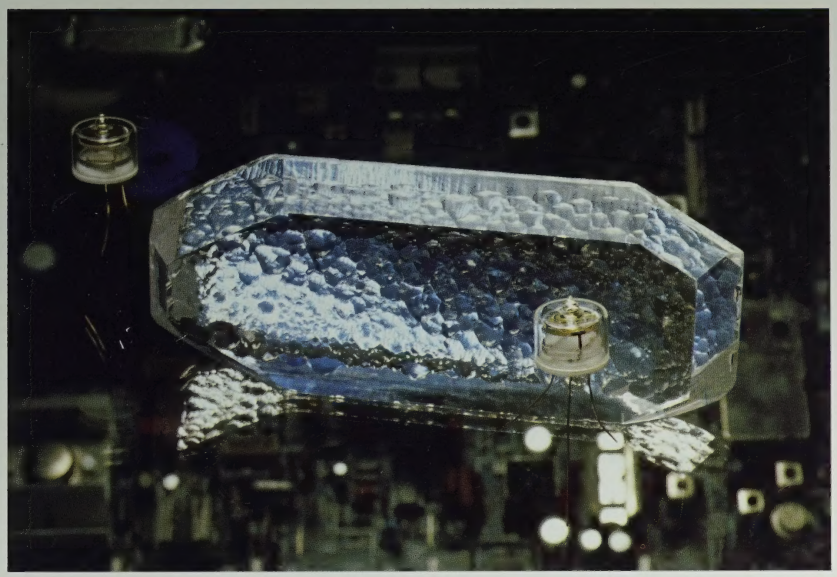
Bliley

first name in frequency control



Quartz Crystals · Crystal Oscillators

Catalog C/D

QUALITY IN QUARTZ

A BLILEY OBJECTIVE CONSISTENTLY ACHIEVED FOR OVER HALF A CENTURY

About This Catalog

Frequency control components are essentially custom manufactured to meet specified requirements. The performance tabulations on the following pages are merely examples of capabilities under various common operating conditions.

The frequency tolerances listed for any one temperature range require specific designs for that range. No one design will necessarily provide the performance indicated for other ranges.

All dimensions in this catalog are given in inches as well as (millimeters) and are nominal unless otherwise specified.

Ordering Guidelines

For **CRYSTALS**, a minimum description must include:

1. Bliley type (holder style), e.g. BK3-1B, BH6W, etc.
2. Frequency
3. (A) Calibration tolerance at +25°C, or other reference temperature.
   (B) Tolerance vs operating temperature range, which may include 3(A) if preferred.
4. Circuit Operating Condition. Often **series resonant**, but if **parallel resonant**, the load capacity presented to the crystal must also be specified.
5. Mode of vibration (AT & SC cut crystals only), e.g. **fundamental, 3rd, 5th or 7th overtone.**

MIL-C-3098 crystals are completely described by the type designation and frequency e.g. CR-18A/U at 10.000000 mHz. Bliley manufactures virtually all MIL-SPEC types.

For **OSCILLATORS**, indicate the Bliley type, frequency, tolerance vs temperature range and output waveform. Stock oscillators require only the Bliley type number.

Voltage controlled crystal oscillators are usually designed for specific applications. We will welcome an opportunity to review and comment on your requirements.

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	PAGE	BLILEY TYPE
CRYSTALS		
COLDWELD SEALED		
CONVENTIONAL HOLDER	4	**BA**
PC BOARD MOUNT	5	**HB**
TRANSISTOR CASE	3	**BK**
GENERAL PURPOSE & MIL-SPEC.	6-7	**BH,BR,BX**
STRESS COMPENSATED (SC CUT)	5	**BA,BK**
ULTRA HIGH STABILITY (AT & SC)	8	**BA,BG,BK**
CRYSTAL OSCILLATORS		
GENERAL PURPOSE & CLOCK (XO)	9	**C**
TEMPERATURE COMPENSATED (TCXO)	10	**T**
VOLTAGE CONTROLLED (VCXO)	10	**V**
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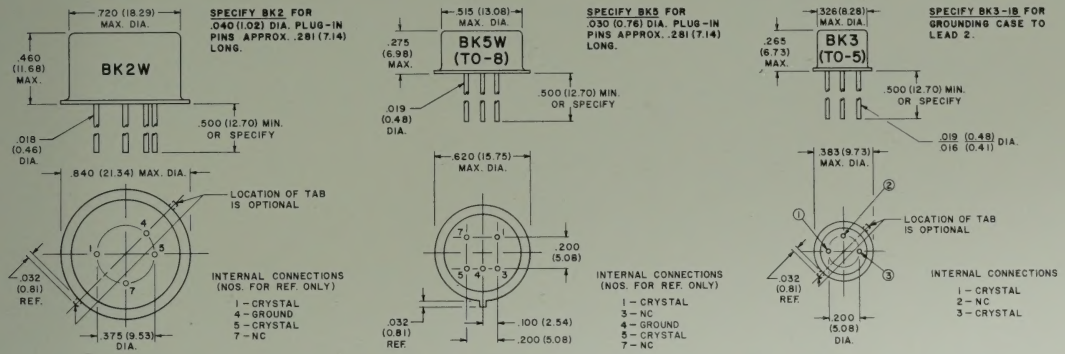
CRYSTALS

Coldweld Vacuum Sealed Transistor Case Styles

Bliley

first name in frequency control

Unmatched performance during extreme shock and vibration combined with superior aging and high reliability have firmly established this style as first choice in advanced military and space systems. Ease of mounting, form compatibility and moderate cost also attract quality commercial usage.



BLILEY TYPE	FREQUENCY RANGE (MHz)	FREQ. TOL. (%) vs TEMP. RANGE (°C) (INCLUDES CALIBRATION AT +25°C)				MAX. SERIES RES. (Ω)	CRYSTAL CUT-AT (MODE)	TYPICAL DRIVE LEVEL (mW)
		0 TO 50	0 TO 70	–40 TO +70	–55 TO +105			
BK2W	.86 – .99	±.0015	±.002	±.0025	±.003	300	FUNDAMENTAL	1.0
	1 – 1.9					150		
	2 – 2.9					40		
	3 – 6.0					25		
BK5W	2 – 2.9					250		
	3 – 3.9					120		
	4 – 4.9					60		
	5 – 5.9					30		
	6 – 7.9					22		
	8 – 15					15		
BK3	7 – 9.9					40		0.5
	10 – 25					25		
	25 – 75					40	3RD	
	75 – 125					60	5TH	
	125 – 150					100	7TH	

BLILEY TYPE	BK2W	BK3-1B	BK5W
MIL-H-10056 HOLDER DESIGNATION	HC-40/U	HC-35/U	HC-37/U
AGING GUIDELINES: 1ST MONTH FOLLOWING YEAR	2 PPM 1.5 PPM	2 PPM 3 PPM	2 PPM 2 PPM
VIBRATION	20G FROM 10 - 2000 Hz		
SHOCK	150G FOR 7 ms		

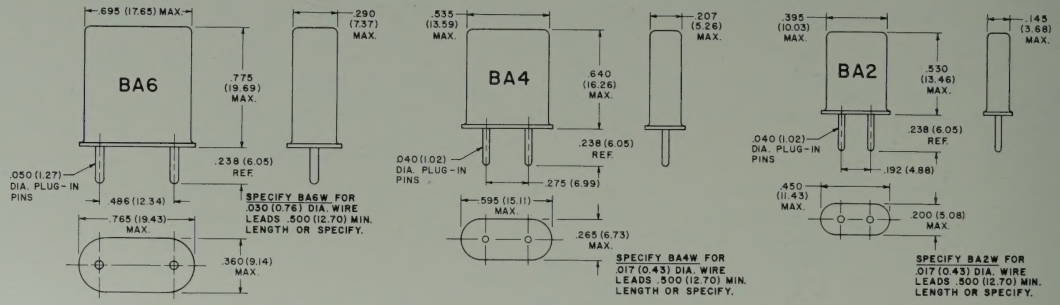
CRYSTALS

Bliley

Coldweld Vacuum Sealed

first name in frequency control

Although similar in appearance and configuration to a commonly used solder-sealed counterpart, Bliley's **BA** series features unexcelled process cleanliness and flux-free sealing in vacuum to minimize contamination. Improved aging and reliability result at a modest cost premium. The data following is suggested for general guidance. Superior performance in temperature stability and aging can be provided if required.


.695 (17.65) MAX.
.290 (7.37) MAX.
BA6
.775 (19.69) MAX.
.238 (6.05) REF.
.050 (1.27) DIA. PLUG-IN PINS
.486 (12.34)
SPECIFY BA6W FOR .030 (0.76) DIA. WIRE LEADS .500 (12.70) MIN. LENGTH OR SPECIFY.
.765 (19.43) MAX.
.360 (9.14) MAX.
.535 (13.59) MAX.
.207 (5.26) MAX.
BA4
.640 (16.26) MAX.
.238 (6.05) REF.
.040 (1.02) DIA. PLUG-IN PINS
.275 (6.99)
.595 (15.11) MAX.
.265 (6.73) MAX.
SPECIFY BA4W FOR .017 (0.43) DIA. WIRE LEADS .500 (12.70) MIN. LENGTH OR SPECIFY.
.395 (10.03) MAX.
.145 (3.68) MAX.
BA2
.530 (13.46) MAX.
.238 (6.05) REF.
.040 (1.02) DIA. PLUG-IN PINS
.192 (4.88)
.450 (11.43) MAX.
.200 (5.08) MAX.
SPECIFY BA2W FOR .017 (0.43) DIA. WIRE LEADS .500 (12.70) MIN. LENGTH OR SPECIFY.

BLILEY TYPE	FREQUENCY RANGE	FREQ. TOL. (%) vs TEMP. RANGE (°C) (INCLUDES CALIBRATION AT +25°C)				MAX. SERIES RES.(Ω)	CRYSTAL CUT	AGING (PPM)		MAX. DRIVE LEVEL (mW)
		0 TO 50	0 TO 75	−40 TO +70	−55 TO +90			1ST MONTH	NEXT 12 MONTHS	
BA6	200 – 299 kHz	±.007	±.008	±.01	±.015	3000	DT	20	40	2
	300 – 399 kHz					4000				
	400 – 500 kHz					5000				
	325 – 499 kHz	±.0025	±.003	±.005	±.007	1500	GT			
	500 – 600 kHz					2000				
BA6 & BA2	300 – 500 kHz	±.003	±.004	±.007	±.011	1000	SL			
	500 – 599 kHz					1500				
	600 – 800 kHz					2000				
BA6	1 – 2 MHz	±.0015	±.002	±.0025	−55 to+105	350	A_f	3	2	5
BA6 & BA4	2 – 3 MHz				±.004	175			3	
	3 – 4 MHz					75				
BA6, BA4, & BA2	4 – 7 MHz					50				
	7 – 10 MHz					30				
	10 – 20 MHz					25				
	20 – 60 MHz					40	A_3			2
BA2	60 – 87 MHz					50	A_5			1
	87 – 100 MHz					60				
	100 – 150 MHz					90	A_7			

AGING VALUES ARE BASED UPON CONTINUOUS OPERATION AT + 85°C AND DRIVE LEVELS AS INDICATED.
A_f, A_3, A_5, A_7 DENOTE AT CUT-FUNDAMENTAL MODE, 3RD OVERTONE MODE, ETC.

BLILEY TYPE	BA6	BA6W	BA4	BA4W	BA2	BA2W
MIL-H-10056 HOLDER DESIGNATION	HC-36/U	HC-47/U	HC-46/U	–	HC-42/U	HC-43/U
VIBRATION	10G FROM 10–2000 Hz					
SHOCK	100G FOR 11 ms					

INTERNALLY RUGGEDIZED DESIGNS ARE AVAILABLE FOR HIGHER LEVEL SHOCK AND VIBRATION.

CRYSTALS

Bliley

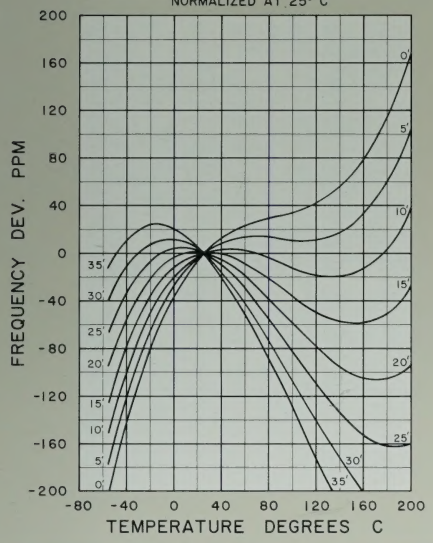
first name in frequency control

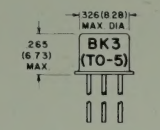
Stress Compensated Double Angle Rotation • SC Cut

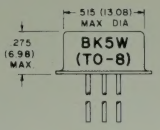
- Improved Frequency Stability During Acceleration and Vibration
- High Drive Capability — Several Times Typical AT Cut Levels
- Low Phase Noise
- Low Aging Rate
- Fast Warm-up

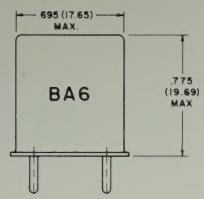
SC CUT

GENERALIZED TEMP./FREQ. CHARACTERISTICS NORMALIZED AT 25° C









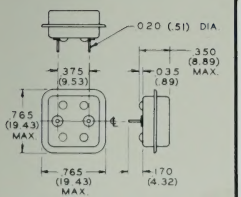
SEE PAGES 3 & 4 FOR COMPLETE DIMENSIONS

BLILEY TYPE	FREQUENCY RANGE (MHz)	MODE
BK5/BK5W	5–15	FUND.
BK3/BK3-1B	15–33	
BA6/BA6W	5–45	3RD
BK5/BK5W	33–45	
BK3/BK3-1B	45–100	
	75–140	5TH

TEMPERATURE RANGE (°C)	FREQUENCY TOLERANCE*
0 TO +50	±.0018%
–10 TO +60	±.0023%
–40 TO +85	±.0048%
–55 TO +85	±.006%
–55 TO +105	±.007%
–55 TO +125	±.0075%
–55 TO +200	±.01%
+20 TO +85	±.0023%
+60 TO +90	±.001%

*INCLUDES STABILITY OVER TEMP. RANGE & CALIBRATION TOLERANCE.

For PC Board Mount • Coldweld Sealed • DT-SL-AT Cuts



HB2
(HC-39/U)

BLILEY TYPE	FREQUENCY RANGE (kHz)	FREQ. TOL. (%) vs TEMP. RANGE (°C) 0 TO 50	0 TO 75	–40 TO +70	–55 TO +90	MAX. SERIES RES. (Ω)	CUT
HB2	200 - 299	±.007	±.008	±.01	±.015	4000	DT
	300 - 399					5500	
	400 - 450					6000	
	450 - 599	±.003	±.004	±.007	±.011	2000	SL
	600 - 800					2500	
	1 - 2 MHz	±.002	±.0025	±.003	±.004	400	A_f
	2 - 3 MHz					200	
	3 - 4 MHz					100	
	4 - 7 MHz					60	
	7 - 10 MHz					30	
	10 - 20 MHz					25	
	20 - 50 MHz					40	A_3

ALL FREQUENCY TOLERANCES INCLUDE INITIAL CALIBRATION AT +25°C.
A_f AND A_3 DENOTE AT CUT-FUNDAMENTAL MODE AND 3RD OVERTONE MODE.
VIBRATION: 10G FROM 10-500 Hz SHOCK: 100G FOR 11 ms

CRYSTALS

Bliley

first name in frequency control

General Purpose and Mil-Spec.

Good performance and reliability plus versatility in mounting and economy pinpoint this group as the logical choice for most computer, data processing and general purpose applications. A variety of holder styles is available with the familiar Mil-Spec solder seal or our "Resistance-Weld" seal, a newer process ideally adapted to volume production at lowest cost with a reduced possibility of contamination.

BLILEY TYPE	FREQUENCY RANGE (kHz)	TEMPERATURE RANGE (°C)								CRYSTAL CUT	AGING (PPM)		MAX. DRIVE LEVEL (mW)
		0 TO 50		0 TO 75		–40 TO +70		–55 TO +90					
		FREQ. TOL. (%)	MAX. SERIES RES.(Ω)	FREQ. TOL. (%)	MAX. SERIES RES.(Ω)	FREQ. TOL. (%)	MAX. SERIES RES.(Ω)	FREQ. TOL. (%)	MAX. SERIES RES.(Ω)		1ST MONTH	NEXT 12 MOS.	
BH9	2.5 - 5	±.01	75k	±.015	85k	±.02	85k	±.025	100k	JT	40	100	0.1
	5 - 8		60k		75k		75k		90k				
	8 - 13.5		50k		60k		60k		75k				
	13.5 - 30	±.005	75k	±.009	100k	±.012	100k	±.02	125k	NT	20	50	
	30 - 50		65k		90k		90k		110k				
	50 - 100		55k		75k		75k		90k				
	90 - 175	±.015	3.5k	±.017	3.5k	±.02	4k	±.03	5k	+5°X	25	70	2
	175 - 250		4k		4k		4.5k		6k				
BH6	200 - 300		4k		4k		4.5k		6k				

		FREQ. TOL. (%) vs TEMP. RANGE (°C)				MAX. SERIES RES. (Ω)				
		0 TO 50	0 TO 75	–40 TO +70	–55 TO +90					
BH6/ BR6	200 - 299	±.007	±.008	±.01	±.015	4000	DT	20	40	2
	300 - 399					5000				
	400 - 500					6000				
BH6/BR6 & BX/BR2	300 - 500	±.003	±.004	±.007	±.011	1500	SL			
	500 - 599					2000				
	600 - 800					2500				
BH6/ BR6	325 - 499	±.0025	±.003	±.005	±.007	2000	GT			
	500 - 600					2500				
	450 - 599	±.007	±.009	±.01	±.02	2500	P			
	600 - 750					3000				
BH6/BR6 & BH4/BR4	1 - 2 MHz	±.002	±.0025	±.003	–55 to +105	400	A_f	4	3	5
	2 - 3 MHz				±.005	200				
	3 - 4 MHz					100				
BH6/BR6 BH4/BR4 & BX/BR2	4 - 7 MHz					60				
	7 - 10 MHz					30				
	10 - 20 MHz					25				
	20 - 60 MHz					40	A_3			2
BX/BR2	60 - 87 MHz					60	A_5	4	4	
	87 - 100 MHz					75				
	100 - 150 MHz					90	A_7			

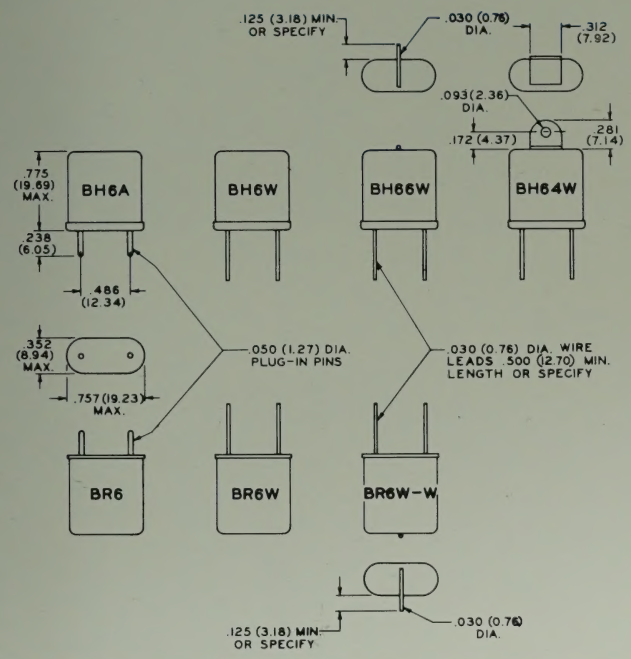
ALL FREQUENCY TOLERANCES INCLUDE INITIAL CALIBRATION AT +25°C.
AGING VALUES ARE BASED UPON CONTINUOUS OPERATION AT +85°C AND DRIVE LEVELS AS INDICATED.
A_f, A_3, A_5, A_7 DENOTE AT CUT-FUNDAMENTAL MODE, 3RD OVERTONE MODE, ETC.

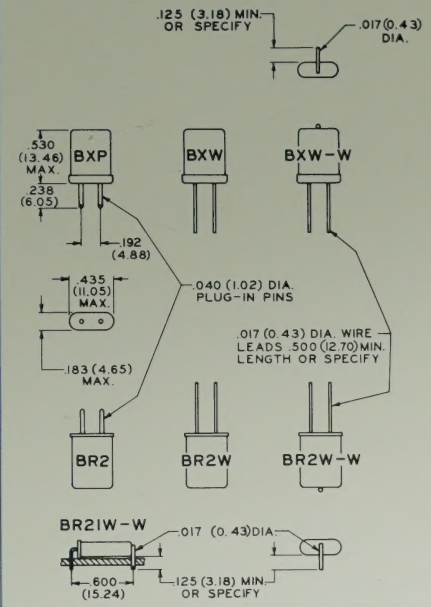
CRYSTAL HOLDERS

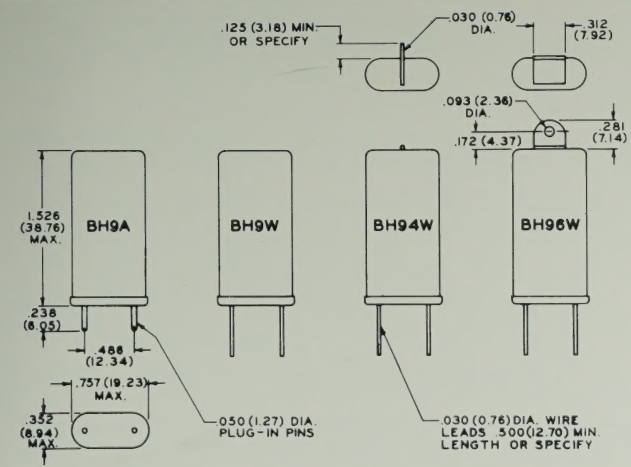
BH & BX Series • solder sealed
BR Series • resistance-weld sealed

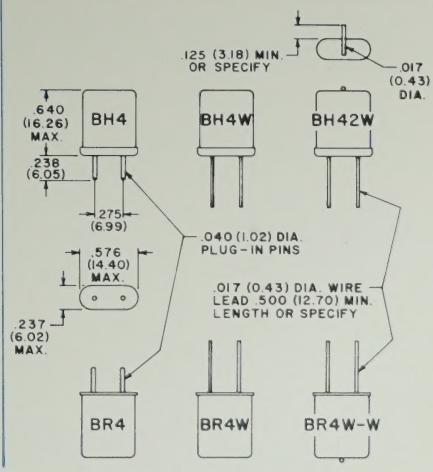
Bliley

first name in frequency control









BLILEY TYPE	BH6A	BH6W	BR6	BR6W	BXP	BXW	BR2	BR2W	BH9A	BH9W	BH4
MIL-H-10056 HOLDER DESIGNATION	HC-6/U	HC-33/U	HC-48/U	HC-51/U	HC-25/U	HC-18/U	HC-50/U	HC-49/U	HC-13/U	HC-34/U	HC-32/U
VIBRATION	10 G FROM 10 TO 500 Hz										
SHOCK	100 G FOR 11 ms										

INTERNALLY RUGGEDIZED DESIGNS ARE AVAILABLE FOR HIGHER LEVEL SHOCK AND VIBRATION.

CRYSTALS

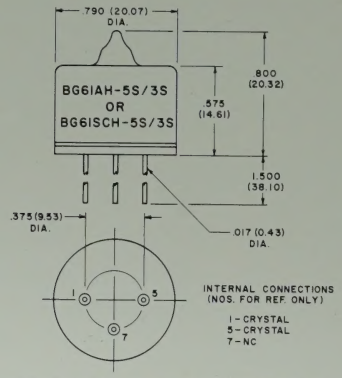
Bliley

first name in frequency control

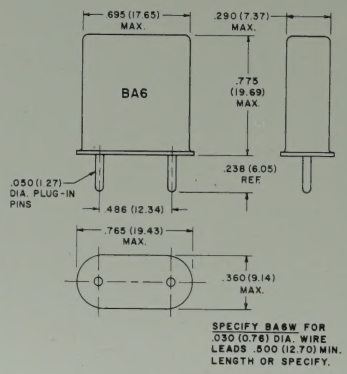
Vacuum Sealed
Ultra High Stability

Designed for optimum performance with temperature control

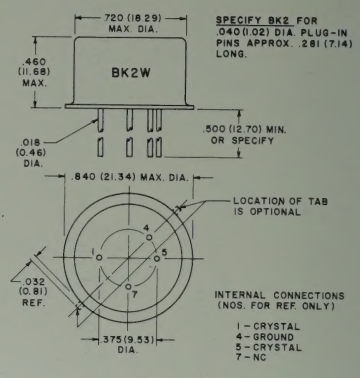
This outstanding group incorporates the technology and craftsmanship that has made Bliley famous for quality without compromise. Exceptionally low aging and high Q characteristics provide precision reference for frequency standards, synthesizers and ultra stable system clocks.



BG61AH-5S/3S OR BG61SCH-5S/3S
(GLASS ENCLOSURES)


.695 (17.65) MAX.
.290 (7.37) MAX.
BA6
.775 (19.69) MAX.
.050 (1.27) DIA. PLUG-IN PINS
.238 (6.05) REF.
.486 (12.34)
.765 (19.43) MAX.
.360 (9.14) MAX.
SPECIFY BA6W FOR .030 (0.76) DIA. WIRE LEADS .500 (12.70) MIN. LENGTH OR SPECIFY.

BA6/BA6W
(COLDWELD SEALED METAL ENCLOSURES)

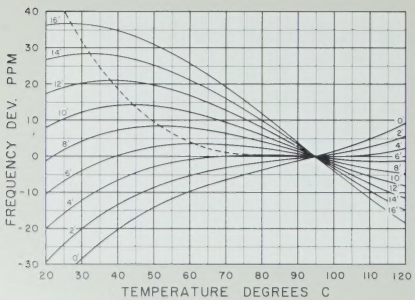

.720 (18.29) MAX. DIA.
SPECIFY BK2 FOR .040 (1.02) DIA. PLUG-IN PINS APPROX. .281 (7.14) LONG.
.460 (11.68) MAX.
BK2W
.018 (0.46) DIA.
.500 (12.70) MIN. OR SPECIFY
.840 (21.34) MAX. DIA.
LOCATION OF TAB IS OPTIONAL
.032 (0.81) REF.
.375 (9.53) DIA.
INTERNAL CONNECTIONS (NOS. FOR REF. ONLY)
1 - CRYSTAL
4 - GROUND
5 - CRYSTAL
7 - NC

BK2/BK2W

	5TH OVERTONE (AT CUT)	3RD OVERTONE (AT CUT)					
BLILEY TYPE	BG61AH-5S	BG61AH-3S	BA6/BA6W		BK2/BK2W		
FREQ.MHz	5	3.8 – 6.0	3.8 – 7.9	8 – 12	3.8 – 6.0	6.1 – 10.9	11 – 15
AVERAGE Q (10^6)	2.5	1.5		0.6	1.0	0.6	0.4
MAX SERIES RESISTANCE (Ω)	140	50		35	50	40	35
FREQ. TOL. AT TURNING POINT	± 1 PPM	± 4 PPM	± 5 PPM				
TURNING POINT	AVAILABLE AT ANY TEMPERATURE (± 5°C) FROM +45° TO +90°C (TOLERANCE OF ± 3° OR ±4° AVAILABLE UPON REQUEST)						
TEMPERATURE COEFFICIENT	$< 1 \times 10^{-7}$/°C FOR 1° EACH SIDE OF TURNING POINT						
AGING AT +75°C	5×10^{-10}/DAY AFTER 3 DAYS 7×10^{-10}/WEEK AFTER 1 MONTH	2×10^{-9}/DAY AFTER 3 DAYS 2×10^{-9}/WEEK AFTER 1 MONTH	2×10^{-8}/WEEK AFTER 1 WEEK				
DRIVE LEVEL	70μA ± 20%	15μW MAX.	25μW MAX.				
FREQ. CHANGE 50G SHOCK OR 10G VIBRATION	$< \pm 1 \times 10^{-8}$	$< \pm 2 \times 10^{-8}$					
	10 – 200 Hz	10 – 1500 Hz			10 – 2000 Hz		

SC CUT

GENERALIZED TEMPERATURE/FREQUENCY CHARACTERISTICS



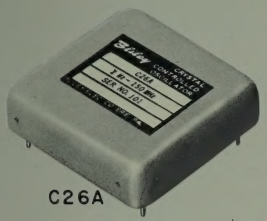
	STRESS COMPENSATED – DOUBLE ANGLE ROTATION				
	5TH OVERTONE (SC CUT)	3RD OVERTONE (SC CUT)			
BLILEY TYPE	BG61SCH-5S	BG61SCH-3S		BA6/BA6W AND BK2/BK2W	
FREQ. (MHz)	5	5	10	5	10
AVERAGE Q (x 10^6)	2.5	2.2	1.2	2.0	1.0
MAX SERIES RESISTANCE (Ω)	350	110	65	120	70
FREQ.TOL.(PPM)AT TURNING POINT	±0.5	±1.5	±1.5	±1.5	±1.5
TURNING POINT	WITHIN ±5°C OF ANY TEMP. IN THE RANGE OF 50°C TO 75°C			WITHIN ±5°C OF ANY TEMP. IN THE RANGE OF 30°C TO 75°C	
AGING AT +75°C	7×10^{-10}/WEEK AFTER 1 MO.	2×10^{-9}/WEEK AFTER 1 MO.		2×10^{-8}/WEEK AFTER 1 WEEK	

CRYSTAL OSCILLATORS

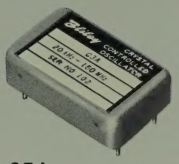
General Purpose-Clock Oscillators

Bliley — first name in frequency control

DESIGNED WITH PRIMARY EMPHASIS ON QUALITY — BACKED UP BY TOP TECHNOLOGY



C26A

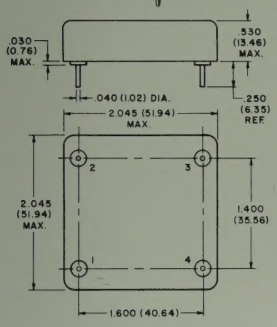


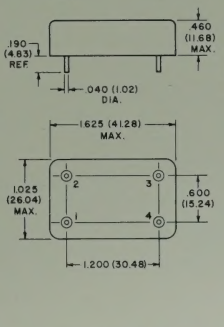
C3A

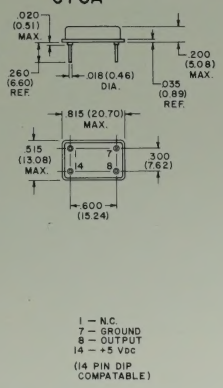
C76A

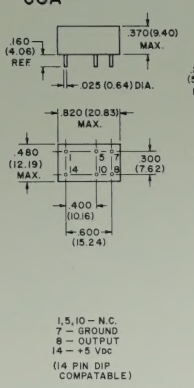
C8A

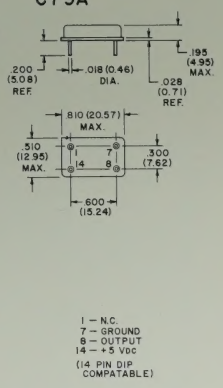
C79A











BLILEY TYPE	FREQUENCY RANGE	FREQ. TOL. (%) vs TEMP. RANGE (°C) (INCLUDES CALIBRATION AT +25°C)				OUTPUT
		0 TO 50	0 TO 70	−20 TO +70	−40 TO +70	
C26A	1 Hz – 2 MHz	± .001	± .0015	± .002	± .0025	TTL LOGIC
	50 kHz – 100 MHz	± .001	± .0012	± .0015	± .002	
	800 kHz – 150 MHz					SINE WAVE
C3A	20 kHz – 25 MHz	± .001	± .0012	± .0015	± .002	TTL LOGIC
	25 MHz – 50 MHz	± .001	± .0012	± .002	—	
	3 MHz – 100 MHz	± .001	± .0012	± .0015	± .002	SINE WAVE
C76A	1 MHz – 25 MHz	—	± .01	—	—	TTL LOGIC
	25 MHz – 40 MHz	—	± .02	—	—	
C8A	4 MHz – 60 MHz	± .004	± .005	± .01	—	
C79A*	1 MHz – 25 MHz	—	± .01	—	—	
	25 MHz – 40 MHz	—	± .02	—	—	

*(CASE DESIGN INCORPORATES AN ALL METAL RESISTANCE – WELD HERMETIC SEAL ENCLOSURE.)

GENERAL SPECIFICATIONS

SUPPLY: +5 VDC

OUTPUT: TTL LOGIC "1" +2.4 V MIN., LOGIC "0" +0.4 V MAX.

SYMMETRY: 60/40 DUTY CYCLE WORST CASE

LOAD: 10 TTL GATES

SINE WAVE: 0.7 VRMS (1000 Ω LOAD), 800 kHz – 25 MHz

0.2 VRMS (50 Ω LOAD), 1 – 150 MHz

CUSTOM OPTIONS AVAILABLE: CMOS LOGIC, COMPLEMENTARY OUTPUTS, DUAL-FREQUENCY OUTPUTS

FREQUENCY ADJUSTMENT: ELECTRICAL OR MECHANICAL AVAILABLE ON C26A AS A CUSTOM OPTION

HERMETIC ENCLOSURES: C26A, C3A AND C79A

CRYSTAL OSCILLATORS

Bliley

first name in frequency control

Temperature Compensated (TCXO) Crystal Oscillators

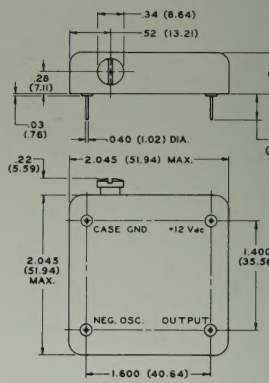
BLILEY TEMPERATURE COMPENSATED CRYSTAL OSCILLATORS are designed to integrate the characteristics of high quality coldweld sealed crystals with temperature compensated circuitry to achieve improved frequency stability without temperature control and low aging to assure long term reliability.

STOCK OSCILLATORS – FAST DELIVERY						
BLILEY TYPE NO.	FREQ. (MHz)	FREQ. STABILITY	SUPPLY (DC) VOLTS	REG.	mA	TTL LOGIC OUTPUT
T26A411	1	±1 x 10^{-6} OVER 0–50°C	+ 5	± 1%	35	"0": +0.4V MAX.
T26A412			+12	±10%	30	"1": +2.4V MIN.
T26A413/440*	5/10*		+ 5	± 1%	25	T_r & T_f: 12 NS MAX.
T26A414/441*			+12	±10%	35	SYMMETRY: 60/40 LOAD: 10 TTL GATES

FREQ. ADJUST. RANGE: ±5 X 10^{-6} MIN. AGING RATE: 1 X 10^{-6}/YR.

T26A

CUSTOM OSCILLATORS / BLILEY TYPE T26A SERIES		
FREQUENCY RANGE / OUTPUT WAVEFORM	FREQUENCY STABILITY vs TEMPERATURE RANGE	
1 MHz – 20 MHz SINEWAVE OR 50 kHz – 20 MHz TTL LOGIC	±1 x 10–6	0 to +60°C
	±5 x 10–7	
	±1 x 10–6	–20 to +70°C
	±5 x 10–7	
	±1 x 10–6	–40 to +70°C
	±2 x 10–6	–55 to +70°C
	±1 x 10–7	+20 to +40°C



SUPPLY REQUIREMENTS:
+12 VDC ±10% REG. AGING RATE: 1 X 10^{-6}/YR.

Options available:

- CMOS logic output from 1 Hz – 20 MHz
- Sine Wave & TTL logic output from 20 MHz – 100 MHz
- Other Supply Voltages

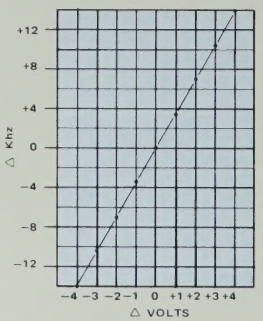
Voltage Controlled (VCXO) Crystal Oscillators

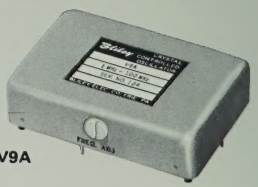
BLILEY VOLTAGE CONTROLLED CRYSTAL OSCILLATORS combine inherent crystal stability and voltage controlled frequency deviation in a single solid state device. Center Frequency range from 1—100 MHz with performance characteristics tabulated below:

FREQUENCY DEVIATION	FREQUENCY STABILITY	TEMPERATURE RANGE
± .01%	± .001% ± .002%	0 to 50°C –20 to +70°C
± .05%	± .002% ± .005%	0 to 50°C –20 to +70°C
± .1%	± .004% ± .008%	0 to 50°C –20 to +70°C
± .2%	± .005% ± .01%	0 to 50°C –20 to +70°C

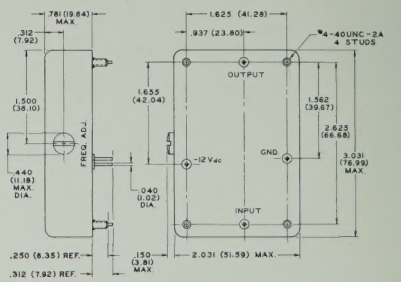
- Standard design parameters are based on operation with –12 Vdc; 25 mA supply. Other voltages may be specified as a custom option.
- Standard output is sine wave, typical 1V rms into 1000 ohms or .25V rms into 50 ohms.
- Mechanical trim is provided for center frequency adjustment.
- Typical modulation voltage is ±5V with a modulating input impedance of 10K ohms and modulation rate from DC to 20 kHz

TYPICAL LINEARTY CHART (C.F. 45 MHz & ± 14 kHz DEVIATION)



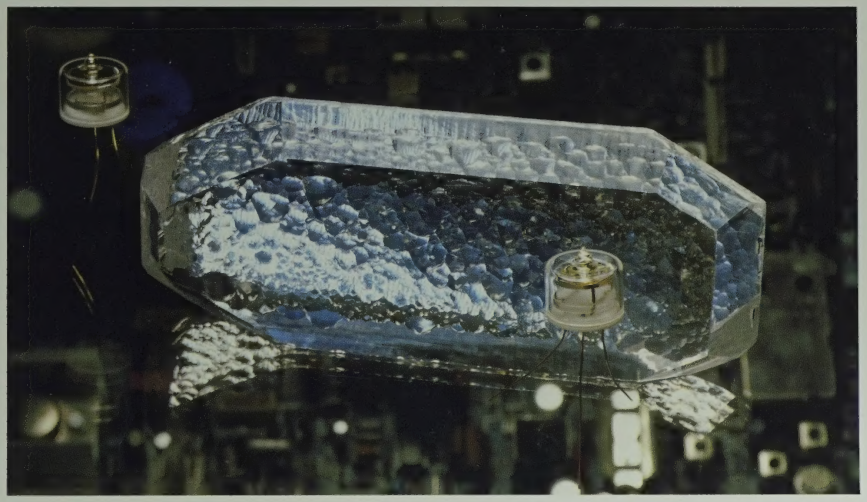


V9A



QUALITY IN QUARTZ

A BLILEY OBJECTIVE CONSISTENTLY ACHIEVED FOR OVER HALF A CENTURY



Quality Assurance

Bliley quality assurance procedures comply with all applicable military specifications. Design and construction adhere to MIL-STD-454 guidelines and requirements. Products are held to compliance with appropriate general specifications such as MIL-C-3098 or MIL-0-55310. Test procedures use MIL-STD-202, MIL-STD-750, or MIL-STD-883 methods. Inspections use MIL-STD-105. All test and measurement equipments are controlled and calibrated with traceability to NBS as prescribed by MIL-STD-45662. The standard QC system is based on MIL-I-45208 and MIL-Q-9858. On request, however, Bliley will develop and use special programs to meet unique requirements on specific orders. Such programs have included NHB 5300.4(1C), (formerly NASA NPC 200-3), OD 45756, FMSAEG, and numerous customer-generated programs for special space, aircraft, and missile applications.

Bliley totally controls product quality from raw material to finished unit, by manufacturing our own crystals and growing and sweeping (for radiation hardening) our own cultured quartz. Our total commitment to quality makes Bliley the preferred supplier at the more sophisticated levels of electronics.

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